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CENTRAL INTELLIGENCE AGENCY

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TBILISI PLANT DIRECTORS RESPOND TO CRITICISM;  
NEW SHAFT-THREADING RECORD SET

MANAGERIAL PERSONNEL ADMIT MISTAKES -- Tbilisi Zarya Vostoka, 9 Aug 50

On 3 August, Zarya Vostoka published a number of letters written by Pavel Bykov and several turners at Georgian metal-working enterprises. These letters criticized various plants for their inefficient application of high-speed methods and for not training sufficient workers in these methods.

Answers to these letters have been written by the managerial personnel of these plants, who admit that the accusations are justified and outline measures which will be taken to correct the situation. These letters were published in Zarya Vostoka on 9 August. The letters were signed by A. Meladze, director of the Tbilisi Machine-Tool Building Plant imeni Kirov; G. Kakabadze, director of the Machine-Building Plant imeni 26 komissarov; G. Gedevanishvili, head of the Chair of Machine-Building Technology of the Tbilisi Polytechnical Institute; G. Tsereteli, chief of the Tbilisi Locomotive Depot; and G. Tsverava, director of the Brick and Cement Combine.

THREADS SHAFT IN 7 MINUTES -- Moskovskiy Komsomolets, 10 Aug 50

The norm for machining a worm shaft for multispindle automatics is 185 minutes. Nikolay Chikirev of the Machine-Tool Plant imeni Ordzhonikidze has improved the technology for threading shafts, using the modernized high-speed 1A62 lathe. He now machines a shaft with four T15K6 hard-alloy cutters simultaneously and can thread one shaft in 7 minutes.

PERFECT NEW THREAD-GENERATING MACHINE -- Tbilisi Zarya Vostoka, 8 Aug 50

Machine-tool builders at the Tbilisi Stanok Plant have perfected a thread-generating machine with a hydraulic drive. The new machine can thread large-diameter pipes.

- 1 -

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**NEW CHECKING AND SORTING AUTOMATICS -- Vil'nyus Sovetskaya Litva, 9 Aug 50**

The Leningrad Tool Plant has ready for shipment to customers a series of checking and sorting automatics. The letter "M" has been added to their identification to signify that they have been modernized; their capacity has been increased, making their operation more convenient.

Machine tools which were produced earlier had to be stopped every 2 hours to remove the sorted parts. The modernized model, with 12 sections, operates the entire shift without stopping, automatically measuring 2,400 tapered rollers for ball bearings per hour. One inspector can service a number of such machine tools.

**NEW BLADE FASTENING METHOD BOOSTS TOOL DURABILITY -- Morskoy Flot, No 7, Jul 50**

At present there are two methods of securing cutting-tool blades in tool holders. One is by soldering or welding, and the other is by mechanical means.

Both research and practice have shown that soldering causes a large number of defects, especially in hard-alloy tools. The blade cracks when it is overheated and cooled suddenly, and frequently becomes unsoldered during operation.

Existing methods of holding blades by mechanical means have not yet been widely applied in industry because of their imperfect state of development.

Prof V. A. Krivoukhov and the author of this article have developed and successfully applied a new method of securing cutting tool blades into tool holders.

A mortise is milled or shaped in the shank of a cutter, mill, drill, or other tool. The size of the mortise is identical with the size of the blade. This part of the tool shank is then heated by any desired method to a temperature, the larger the mortise.

The cold blade and a cushion of thin cuprite foil are inserted in the heated mortise. The thickness of the cushion should be such that it and the blade can be inserted into the shank with a minimum of pressure. The shape of the cushion should correspond to the shape of the tool blade. If the blade fits loosely in the mortise, another cushion can be inserted or the holder can be squeezed with slight pressure in a bench vice or hand press.

Upon completion of the insert, the shank is gradually air cooled to normal temperature. As the tool cools, the mortise shrinks, holding the blade and cushion firmly in the tool shank.

After cooling, the tool is ground and a chip curler is formed on the front edge. To increase the strength of the chip curler, a second blade made of hard alloy, high-speed steel or some substitute material can be built into the tool shank.

Research and plant practice have shown that the durability of cutters manufactured by the above method is considerably higher than that of tools attached by other methods.

**FORMING REPLACES CASTING -- Moscow Komsomol'skaya Pravda, 12 Aug 50**

At the Moscow Grinding Machine Plant the hatch (lyuk) cover of a grinding machine was formerly cast from cast iron. This consumed 5.5 kilograms of metal per cover. Actually, this part does not carry any particular load. It was suggested that this part be formed from sheet steel. It can now be manufactured 15-18 times faster and costs 8-10 times less.

- 2 -

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50X1-HUM

DESIGN NEW MODELS FOR HIGH-SPEED CUTTING -- Stanki i instrument, No 6, Jun 50

The Ministry of Machine-Tool Building has begun the manufacture of new machine tools for high-speed cutting. Included among these are Models 1620 and 1616 universal lathes.

Last year hundreds of new designs of machine tools, presses, instruments, and tools were developed; 40.3 percent more new models of machine tools were perfected than in 1948; the output of types and sizes of special and combination machine tools increased 25 percent. A number of automatic transfer machine lines were built for leading branches of machine building.

The 1949 plan for converting machine tools to high-speed methods of working was exceeded 65 percent. A total of 18.5 percent of all products of the Ministry of Machine-Tool Building were manufactured by conveyor methods.

However, the successes achieved by the Ministry of Machine-Tool Building do not excuse the fact that in 1949 a number of plants lagged, did not overcome last-minute speedups, did not achieve an even rate of production, decrease costs, etc. These shortcomings must be remedied in 1950.

Plants of the Main Administration of Supporting Industries for Machine-Tool Building (Glavstankosmezhprom) must increase the volume of their production and give special attention to increasing the output of electric pumps and rotary pumps. The administration must also perfect a number of new types of items, including electro-ionic drives with power up to 3 kilowatts, high-frequency 40,000-60,000 rpm electric motors having a capacity up to 1.5 kilowatts, and new electro-magnetic clutches.

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- 3 -

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